US-PAT-NO: 6151644

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TITLE: Dynamically configurable buffer for a computer network

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Brief Summary Text - BSTX (7):
   A prior art "maximum packet **size" buffer** manager **divides buffer memory** into
uniform sized packet **buffers,** each of which is large enough to handle the
largest permissible packet **size**. Each **packet** buffer **stores** only one **packet**
regardless of **packet** size. A maximum **packet** size buffer manager may employ
relatively record keeping logic but does not make efficient use of buffer
memory when most **packets** are much smaller than the largest possible size; much
of the **storage** capacity of each **packet** buffer is often unused.

Brief Summary Text - BSTX (8):
   A "minimum packet **size" buffer** manager **divides buffer memory** into several
uniform sized packet **buffers,** each of which is generally much smaller than the
maximum allowable packet **size,** suitably only as large as the minimum allowable
size packet. Since more than one **packet** buffer is usually needed to **store a**
packet, the buffer manager splits an incoming **packet** into appropriately sized
segments (i.e. it "disassembles" the **packet) and stores** the segments in as many
available **packet** buffers as are needed. The buffer manager must maintain an
ordered list of the packet buffers containing the segments of each packet so
that it can properly reassemble the packet when it is time to forward it via an
output bus. A minimum **packet** size buffer manager normally makes much more
efficient use of buffer memory capacity than a maximum **packet** size buffer
manager but is more complex because it has to carry out the disassembly and
reassembly operations on each **packet** and because it must maintain a relatively
more complicated record of **packet storage** locations. Also, since a minimum
packet size buffer manager must carry out more complicated operations when
receiving and forwarding a packet, a minimum packet size buffer manager may
have a slower throughput than a network switch employing a maximum packet size
buffer manager.